

### ABSTRACT

A valve stem seal assembly includes several protrusions or bumps on the bottom of a spring seat flange or on a spring wear washer surrounding the seal. The protrusions can be either cast formed or machined in place. In described embodiments, the protrusions are adapted to engage corresponding depressions, holes, or receptors in a cylinder head deck surface against which the flange or wear washer abuts. A positive mechanical anchor is thereby created for resisting any torque applied to the flange or washer through mechanical vibration induced rotation of the valve spring. Sliding contact is thereby avoided at the interface between the flange or washer and the cylinder head, and wear is prevented. Use of one disclosed embodiment will require that the cylinder head manufacturer provides a cylinder head that includes several small depressions or apertures in the valve spring seat area that correspond with the disclosed protrusions or bumps.

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